BIOLOGY

QUALIFICATION: **A Level Biology**

Examination Board: **OCR**

What do I need to know or be able to do before taking this course?

You will have studied one of:

- GCSE Combined Science and achieved grade 6
- GCSE Biology and achieved grade 6

You will also need grade 6 Maths.

What will I learn on this A Level course?

The specification is divided into topics, each covering different key concepts of Biology. Teaching of practical skills is integrated with the theoretical topics and they're assessed through the written papers. The course includes a Practical Endorsement which is a requirement for some University courses.

What kind of student is this course suitable for?

You need to be a strong scientist with a passion for understanding how things work. Although Biology is not as mathematical as the other Science A levels, you do need to be comfortable carrying out calculations and drawing and interpreting graphs. You also need to be able to write well and express your ideas clearly using the correct vocabulary. It also if you enjoy practical work and finding things out through experiments, as practical work is a key aspect of Biology. You need to be prepared to work hard to learn key information, and then apply what you know to solve problems, so you need to be willing to give things a go and try out different approaches to your work.

What is covered on the A level course?

Biology is split into six modules. Modules 1 to 6, combined with the Practical Endorsement, constitute the full A Level. You can also take an AS level by studying modules 1 to 4 and taking an exam at the end of Year 12.

Module 1 Development of practical skills (taught throughout the course) from using microscopes to dissecting locusts to surveying organisms on a beach!

Module 2 Foundations in biology - you will learn the fundamental concepts underpinning all of biology: the exquisite structure of cells and the molecules that make them up.

Module 3 Exchange and transport - you will learn about the heart, blood and lungs in humans and other animals, and then compare these transport systems with those in plants.

Module 4 Biodiversity, evolution and disease - you will learn how organisms are evolved, how living things are classified, and how they are identified and surveyed. You will also learn about some of the most significant diseases affecting humans.

Module 5 Communications, homeostasis and energy - you will apply your knowledge of cells and molecules to explain how nerves and muscles work, how the body regulates itself and how animals and plants generate energy.

Module 6 Genetics, evolution and ecosystems - you will learn about the latest techniques in genetics, such as PCR and sequencing genes. You will also study evolution and ecosystems in more detail, building on your knowledge from module 4.

For the full A level, you sit two 2 hour 15 minute papers on the content, and a 90 minute synoptic paper.

If you take the AS level, you will it two 90 minute papers.

What could I go on to do at the end of my course?

There are many career options available to those that have studied Biology, for example Medicine, veterinary medicine, pharmacy, pharmacology, neuroscience, dentistry, environmental science, conservation, sports science and lots more. The skills that you develop are also valued in a wide range of other careers such as finance, IT services, computing and education and healthcare.

There are a number of excellent websites which give further details about careers in Biology:

https://www.rsb.org.uk/careers-and-cpd/careers/career-resources

https://nationalcareersservice.direct.gov.uk/advice/planning/jobfamily/Pages/scienceandresearch.aspx